

REMARKS

I. Summary of Claim Amendments

Claim 1 is amended to incorporate the subject matter of claims 2-4. Accordingly, claims 2-4 are canceled without prejudice or disclaimer. Claim 1 is further amended to delete reference to a surface treatment agent. Claim 5 has been amended to depend from claim 1.

No new matter is added. Therefore, Applicants respectfully request entry and consideration of the present Amendment. Upon entry of the Amendment, claims 1, 5-9, 11 and 14-16 will be pending.

II. Response to Rejection of Claims 2-6 Under 35 U.S.C. § 112, second paragraph

Amended claim 1 clearly recites the composition of the fluoropolymer, namely, that “the silicon-containing fluoropolymer comprises repeating units derived from the fluorine-containing monomer of formula (I) and repeating units derived from a silicon-containing monomer represented by formula (II).” It is respectfully submitted that the claims as amended fully comply with 35 U.S.C. § 112, and withdrawal of the foregoing rejection is respectfully requested.

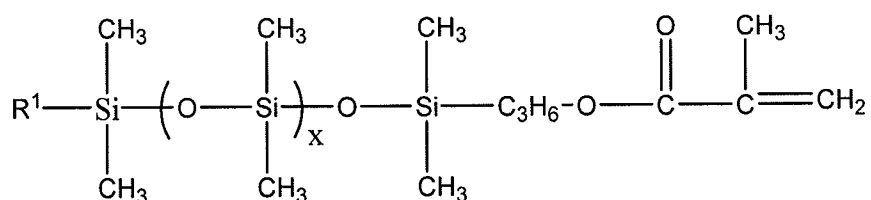
III. Response to Rejection of Claims 1-3, 5-6, 11 and 14 under 35 U.S.C. § 102(b)

Claims 1-3, 5-6, 11 and 14 were rejected under 35 USC §102(b) as being anticipated by Inukai (U.S. Patent No. 5,128,389). Specifically, Inukai was cited as teaching the use of monomers such as $\text{CH}_2=\text{CFCOOCH}_2\text{C}_2\text{F}_5$, $\text{CH}_2=\text{CHFCOOCH}_2\text{CF}_3$, $\text{CH}_2=\text{CFCOOCH}_2\text{C}(\text{CF}_3)\text{FOCF}_2\text{C}(\text{CF}_3)\text{FOCF}_3\text{F}_7$, etc.

In response, claim 1 has been amended to incorporate therein the recitation of claims 2 to 4 to thereby obviate the foregoing rejection. Withdrawal is respectfully requested.

Further, claims 1, 5-9, 11 and 14-16 are patentable over Inukai, at least for the following additional reasons.

Amended claim 1 defines the silicon-containing monomer of formula (II), which silicon-containing monomer is exemplified in Preparative Examples 2 and 3. Preparative Examples 2 and 3 use SAILAPLANE FM-0711 manufactured by Chisso Corporation (reactive silicone) having the structure:



wherein R^1 is a hydrogen atom or a methyl group, and x is such that the compound has an number-average molecular weight of about 1,000.

In contrast, Inukai discloses alkoxysilyl-group-containing-compounds of formula (II) at column 3, lines 10-15. Formula (II) of Inukai is different from the silicon-containing monomer defined in the present claim 1, at least because formula (II) of present claim 1 has at least one repeating unit represented by $-(\text{Si}(\text{R}^{12})_2-\text{O})_p-$, wherein p is 1 to 100, whereas formula (II) of Inukai can have a terminal $-\text{Si}(\text{R}^4)_2\text{OR}^5$ group and no corresponding repeating unit.

IV. Response to Rejection of Claims 1-9, 11 and 14-16 under 35 U.S.C. § 103(a)

Claims 1-9, 11 and 14-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP '472 (JP 63-101472) in view of Ohmori (U.S. Patent No. 5,021,501).

According to the present invention, excellent water and oil repellency and soil resistance can be imparted to a textile while retaining the feel of the textile, even though the textile is treated with a fluorine-containing acrylate polymer substituted at its alpha-position by a fluorine

atom, chlorine atom or the like. See, for example, page 4, lines 16-21 of the present specification.

Claims 1, 5-9, 11 and 14-16 are patentable over JP '472 in view of Ohmori, at least for the following reasons.

None of JP '472 and Ohmori (as well as Inukai) discloses or suggests the claimed fluoropolymer which comprises both of (1) a fluorine-containing monomer represented by Formula (I) substituted at its α -position by a fluorine atom, chlorine atom or the like and having a fluoroalkyl or fluoroalkenyl group having 1 to 6 carbon atoms, and (2) a silicon-containing monomer represented by Formula (II) as specified in amended claim 1.

JP '472 discloses a silicon-containing polymer, but JP '472 does not describe or suggest copolymerization of a fluorine-containing monomer and a silicon-containing monomer, as recited in present claim 1. Ohmori does not cure the above deficiency in JP '472, and likewise fails to describe or suggest copolymerization of a fluorine-containing monomer and a silicon-containing monomer. Further, as noted above, Inukai discloses an unsaturated double bond-containing compound having an alkoxysilyl group of Formula (II) at column 3, lines 10-15. However, as noted above Formula (II) of Inukai is different from the structure of the silicon-containing monomer defined in amended claim 1.

Moreover, none of the cited references discloses or suggests the silicon-containing monomer represented by Formula (II) of amended claim 1.

For the above reasons, it is respectfully submitted that the present claims are patentable over JP '472 in view of Ohmori, and withdrawal of the foregoing rejection under 35 U.S.C. § 103(a) is respectfully requested.

Withdrawal of all rejections and allowance of claims 1, 5-9, 11 and 14-16 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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